

## PATENT COOPERATION TREATY

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JUN 06 2005

From the INTERNATIONAL SEARCHING AUTHORITY

**PCT** ELI LILLY AND COMPANY  
Patent Division

 NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

To:

 VOY, Gilbert T ✓  
P. O. Box 6288  
Indianapolis IN 46206-6288  
UNITED STATES OF AMERICA

 Date of mailing  
(day/month/year)

31/05/2005

Applicant's or agent's file reference

X-16126 ✓

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/US2005/000022 ✓

 International filing date  
(day/month/year)

18/01/2005

Applicant

ELI LILLY AND COMPANY

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

**4. Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until **30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority


 European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Josef Ullrich

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

**The following examples illustrate the manner in which amendments must be explained in the accompanying letter:**

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### **"Statement under article 19(1)" (Rule 46.4)**

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

**It must be in the language in which the international application is to be published.**

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### **Consequence if a demand for international preliminary examination has already been filed**

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### **Consequence with regard to translation of the international application for entry into the national phase**

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>X-16126</b>	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No.  <b>PCT/US2005/000022</b>	International filing date (day/month/year)  <b>18/01/2005</b>	(Earliest) Priority Date (day/month/year)  <b>22/01/2004</b>
Applicant  <b>ELI LILLY AND COMPANY</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. With regard to the drawings,**

- a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2005/000022

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC 7 C07D295/08 C07D335/02 C07D409/04 C07D333/64 A61P5/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) IPC 7 C07D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, CHEM ABS Data		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	✓ EP 0 761 659 A (ELI LILLY AND COMPANY) 12 March 1997 (1997-03-12) page 1, line 3 - line 7; examples 2,5,6 -----	1-8, 10-21
X	✓ WO 95/10513 A (PFIZER INC; CAMERON, KIMBERLY, O; DA SILVA-JARDINE, PAUL; LARSON, ERIC) 20 April 1995 (1995-04-20) Table 2, p. 76, 2nd structural formula; p. 77, 2nd structural formula abstract; example 19 -----	1-8, 10-21
A	✓ EP 0 729 951 A (ELI LILLY AND COMPANY) 4 September 1996 (1996-09-04) the whole document -----	1-22
A	✓ EP 0 731 100 A (ELI LILLY AND COMPANY) 11 September 1996 (1996-09-11) the whole document -----	1-22
<input type="checkbox"/> Further documents are listed in the continuation of box C <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family		
Date of the actual completion of the international search  20 May 2005		Date of mailing of the international search report  31/05/2005
Name and mailing address of the ISA European Patent Office, P.B 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040. Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer  Fritz, M

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/000022

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0761659	A	12-03-1997	AT 240948 T	15-06-2003
			AU 703317 B2	25-03-1999
			AU 6682196 A	26-02-1997
			BR 9609844 A	09-03-1999
			CA 2228178 A1	13-02-1997
			CN 1198668 A	11-11-1998
			CZ 9800276 A3	15-07-1998
			DE 69628246 D1	26-06-2003
			DE 69628246 T2	25-03-2004
			EP 0761659 A1	12-03-1997
			ES 2198462 T3	01-02-2004
			HU 9802408 A2	28-01-1999
			JP 11510798 T	21-09-1999
			NO 980395 A	26-03-1998
			NZ 315174 A	29-07-1999
			PL 324816 A1	22-06-1998
			RU 2167158 C2	20-05-2001
			TR 9800132 T1	21-05-1998
			WO 9704763 A1	13-02-1997
			US 5811421 A	22-09-1998
WO 9510513	A	20-04-1995	AU 7545394 A	04-05-1995
			BR 9407790 A	18-03-1997
			CA 2173243 A1	20-04-1995
			CN 1133040 A	09-10-1996
			CZ 9601056 A3	15-01-1997
			EP 0723537 A1	31-07-1996
			FI 944771 A	13-04-1995
			HU 75231 A2	28-04-1997
			WO 9510513 A1	20-04-1995
			JP 8511273 T	26-11-1996
			NO 961432 A	11-04-1996
			NZ 271733 A	24-11-1997
			PL 313905 A1	05-08-1996
			US 6756388 B1	29-06-2004
			ZA 9407911 A	11-04-1996
EP 0729951	A	04-09-1996	US 5998401 A	07-12-1999
			AT 180776 T	15-06-1999
			AU 694837 B2	30-07-1998
			AU 4573296 A	05-09-1996
			BR 9600821 A	23-12-1997
			CA 2170337 A1	29-08-1996
			CN 1137525 A ,C	11-12-1996
			CN 1261534 A ,C	02-08-2000
			CY 2178 A	23-08-2002
			CZ 9600581 A3	11-09-1996
			DE 69602638 D1	08-07-1999
			DE 69602638 T2	21-10-1999
			DK 729951 T3	23-06-1999
			EP 0729951 A1	04-09-1996
			ES 2132841 T3	16-08-1999
			FI 960889 A	29-08-1996
			GR 3030407 T3	30-09-1999
			IL 117168 A	25-11-2001
			IL 128533 A	01-06-2000
			IN 184030 A1	03-06-2000
			IN 182138 A1	09-01-1999

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/000022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0729951 A		JP 8268881 A	15-10-1996
		NO 960772 A	29-08-1996
		NZ 286072 A	28-10-1996
		PL 312829 A1	02-09-1996
		RU 2167849 C2	27-05-2001
		SG 55098 A1	21-12-1998
		TR 960838 A1	21-10-1996
		US 5574190 A	12-11-1996
		US 6268361 B1	31-07-2001
		US 5567712 A	22-10-1996
		US 6355632 B1	12-03-2002
		ZA 9601291 A	19-08-1997
EP 0731100 A	11-09-1996	US 6395755 B1	28-05-2002
		AT 195519 T	15-09-2000
		AT 247100 T	15-08-2003
		AU 697502 B2	08-10-1998
		AU 5304896 A	02-10-1996
		BR 9607775 A	07-07-1998
		CA 2214261 A1	19-09-1996
		DE 69609748 D1	21-09-2000
		DE 69609748 T2	12-04-2001
		DE 69629500 D1	18-09-2003
		DE 69629500 T2	01-07-2004
		DK 731100 T3	18-09-2000
		EP 0731100 A1	11-09-1996
		EP 0953568 A1	03-11-1999
		ES 2148681 T3	16-10-2000
		ES 2205702 T3	01-05-2004
		GR 3034762 T3	28-02-2001
		IL 117398 A	21-11-2000
		JP 11501930 T	16-02-1999
		PT 731100 T	31-01-2001
		SI 731100 T1	28-02-2001
		WO 9628155 A1	19-09-1996
		ZA 9601883 A	08-09-1997



# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

*X16126*

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

*22 OCT 2005*

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
PCT/US2005/000022

International filing date (day/month/year)  
18.01.2005

Priority date (day/month/year)  
22.01.2004

International Patent Classification (IPC) or both national classification and IPC  
C07D295/08, C07D335/02, C07D409/04, C07D333/64, A61P5/00

Applicant  
ELI LILLY AND COMPANY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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D-80298 Munich  
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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/000022

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 12-13

because:

☒ the said international application, or the said claims Nos. 12-13 with respect to industrial applicability relate to the following subject matter which does not require an international preliminary examination (*specify*):

**see separate sheet**

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the whole application or for said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form ☐ has not been furnished

☐ does not comply with the standard

the computer readable form ☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/000022

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-22
	No: Claims	
Inventive step (IS)	Yes: Claims	9,22
	No: Claims	1-8,10-21
Industrial applicability (IA)	Yes: Claims	1-11,14-22
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claims 12-13 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Art. 34(4)(a)(i) PCT).

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

D1: EP-A-0 761 659 (ELI LILLY AND COMPANY) 12 March 1997 (1997-03-12)

D2: WO 95/10513 A (PFIZER INC; CAMERON, KIMBERLY, O; DA SILVA-JARDINE, PAUL; LARSON, ERIC) 20 April 1995 (1995-04-20)

The present application describes compounds of the general formula I (claims 1-11,22), methods of treatment by administering the compounds I (claims 12-13), the compounds I for use in therapy (claim 14), intermediates of formula II (claims 15-21).

For the assessment of the present claims 12-13 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

The compounds I are described as being selective estrogen receptor modulators useful to treat endometriosis and uterine leiomyoma, i.e. these compounds are pharmacologically active substances which demonstrate an estrogen-like function, but are devoid of proliferative side-effects.

Compounds which display these activities and are structurally very close to the compounds I are already known in the art:

The compounds I which are naphthalene derivatives wherein W designates a group  $\text{CHSO}_2\text{R}^4$  differ from the compounds according to examples 2, 5 and 6 of D1 only insofar, as the cyclohexyl group in 3-position of the naphthalene skeleton is substituted by  $-\text{SO}_2\text{R}^4$ , whereas it is not substituted in the known compounds.

The same argumentation applies for the compounds I which are benzothiophene derivatives when compared to e.g. the compound according to ex. 19 of D2, i.e. the only structural difference is the peripheral substituent  $-\text{SO}_2\text{R}^4$ .

As the above-mentioned representatives of the compounds I are structurally extremely close to already known compounds displaying the same pharmacological activities, a surprising effect would have to be shown in order to acknowledge them as inventive.

The compounds I in which W is  $\text{SO}_2$  can, however, be acknowledged as inventive: The (isosteric) replacement of a cyclohexyl by a 1,1-dioxothiopyran-4-yl group cannot be considered an obvious modification, as it is not possible to predict whether this modification does not change the pharmacological activities of the starting materials.

The acknowledgement of an inventive step for the intermediates II depends from the acknowledgement of an inventive step for the final products.

The subject-matter of claims 1-8 and 10-21 does therefore not fulfil the requirements of Article 33(3) PCT.

Further objections:

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D2 is not mentioned in the description, nor are these documents identified therein.

The numbering of the claims on p. 40 is not correct.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2005/000022